

Accessories for Backup Systems  
**METER BOX FOR SUNNY BACKUP**  
Installation Manual





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# 1 Information on this Manual

## Validity

This manual is valid for the device type METERBOXSBU featuring the hardware version A2 and higher.

## Target Group

This manual is intended for skilled workers. Only qualified personnel are allowed to perform the tasks set forth in this manual (see Section 2.2 "Qualification of Skilled Workers", page 8).

## Additional Information

Additional information is available at [www.SMA.de/en](http://www.SMA.de/en).

Document title	Document type
Optimization of self-consumption	Planning Guidelines

## Symbols

Symbol	Explanation
	Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
	Indicates a situation which, if not avoided, could result in property damage.
	Indicates information that is important for a specific topic or objective, but is not safety-relevant.
<input type="checkbox"/>	Indicates a requirement for meeting a specific goal.
<input checked="" type="checkbox"/>	Desired result.
	A problem that could occur.

## Typography

Typography	Usage	Example
"Light"	<ul style="list-style-type: none"> <li>Jacks</li> <li>LEDs</li> </ul>	<ul style="list-style-type: none"> <li>Connect the plug of the reading head of the PV production meter to the "PV Meter" jack of the Meter Box.</li> </ul>
<b>Bold</b>	<ul style="list-style-type: none"> <li>Elements to be selected</li> <li>Elements to be entered</li> </ul>	<ul style="list-style-type: none"> <li>In order to activate overnight shutdown of the Sunny Backup when the state of charge of the battery is too low, set the "SlfCsmplSbyMod" parameter to <b>On</b>.</li> </ul>

## Nomenclature

The following nomenclature is used in this manual:

Complete designation	Short form in this manual
Meter Box for Sunny Backup	Meter Box

## Abbreviations

Abbreviation	Designation	Explanation
AC	Alternating Current	Alternating current
DC	Direct Current	Direct current
LED	Light-Emitting Diode	Light-emitting diode
PV	Photovoltaics	-

## 2 Safety

### 2.1 Intended Use

The Meter Box for Sunny Backup is an optional component of the Sunny Backup system and is used for transmitting data to increase the self-consumption of the PV power.

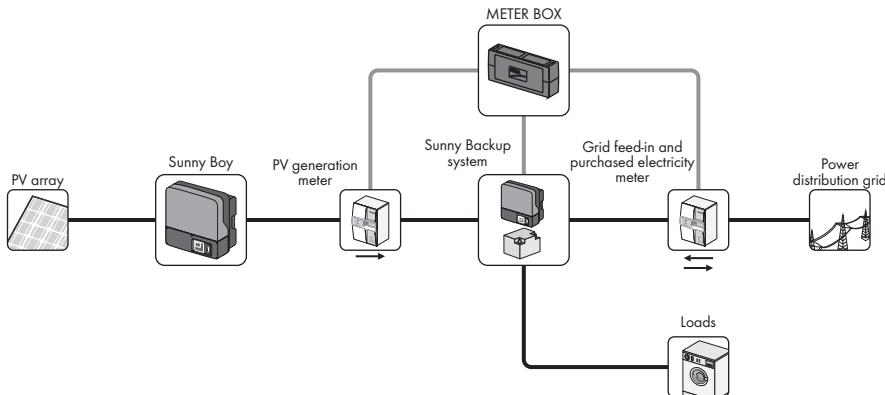


Figure 1: Operating the Meter Box in the Sunny Backup system

The Meter Box may only be operated in conjunction with the Sunny Backup 2200 and the Sunny Backup 5000 from SMA Solar Technology AG.

Only compatible energy meters are allowed to be connected to the Meter Box (for details, see Planning Guidelines "Increased Self-Consumption Sunny Backup / Sunny Home Manager").

Operate the Meter Box with the following reading head from ED Jochen Vogts: type "Infrarot Adapter RS232/RJ10 MUC" with cable outlet 180° or cable outlet facing upwards.

Maintain the limiting values specified for the Meter Box voltage supply (see Section 11 "Technical Data", page 36).

The Meter Box is suitable only for indoor installation.

Do not use the Meter Box for purposes other than described here. Alternative uses, modifications, opening the Meter Box and installing component parts void the warranty claims and operation permit.

This document is part of the Meter Box.

- Read and follow the manual to ensure proper and optimum use of the Meter Box.
- Keep the manual in a convenient place for future reference.

## 2.2 Qualification of Skilled Workers

The tasks described in this manual are intended for skilled workers only. Skilled workers must have the following qualifications:

- Knowledge of how a backup system works and operates with an option for increasing self-consumption
- Training in how to deal with the dangers and risks associated with installing and using electrical devices and plants
- Training in the installation and commissioning of electrical devices and plants
- Knowledge of all applicable standards and guidelines
- Knowledge of and adherence to this manual and all safety precautions

### 3 Scope of Delivery

Check the delivery for completeness and any visible external damage. Contact your specialty retailer if the delivery is incomplete or you find any damage.

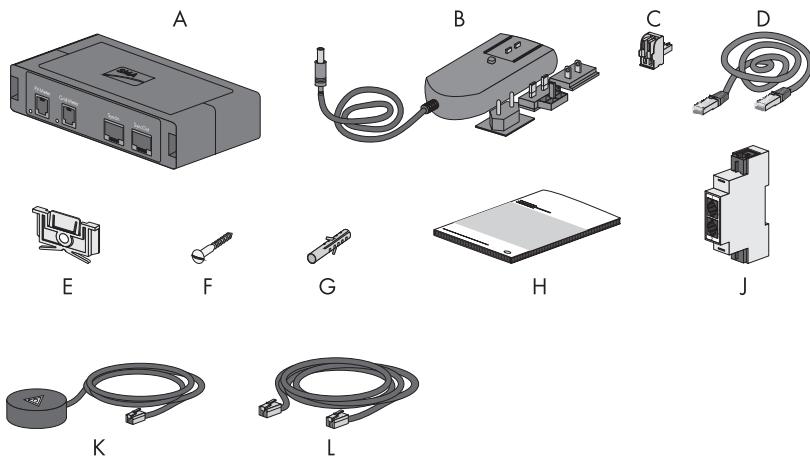


Figure2: Components included in delivery

Item	Quantity	Designation
A	1	Meter Box
B	1	Plug-in power supply with attachments
C	1	2-pole plug
D	1	RJ45 cable
E	1	Retainer*
F	1	Screw
G	1	Screw anchor
H	1	Installation manual
J	1	Feed-through adapter**
K	2	Reading head**
L	2	Extension cord**

\* Is attached to the rear side of the Meter Box upon delivery

\*\* Optional

## 4 Product Description

### 4.1 Meter Box for Sunny Backup

The Meter Box for Sunny Backup is an optional component of the Sunny Backup system and is used for transmitting data to increase the self-consumption of the PV power.

The reading heads on the PV production meter and grid feed-in and purchased electricity meter read out data. The reading heads supply the Meter Box with this data. The Meter Box transmits this data to the Sunny Backup. The Sunny Backup can regulate the charging and discharging of the battery for increasing the self-consumption based on this data.

The Meter Box draws the electrical power required for the data transmission from a socket-outlet or another alternative voltage source.

### 4.2 Type Label

The type label clearly identifies the Meter Box. The type label is on the right-hand side of the enclosure.

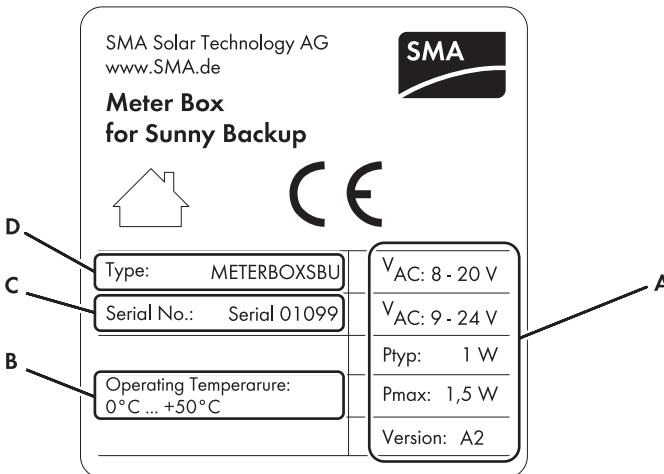


Figure 3: Layout of the type label

Position	Designation	Explanation
A	Device-specific characteristics	-
B	Operating temperature	Maximum operating temperature
C	Serial No	Serial number
D	Type	Device type

## Symbols on the Type Label

Symbol	Designation	Explanation
	Interior	The Meter Box is suitable only for indoor operation.
	CE marking	The Meter Box complies with the requirements of the applicable EC guidelines.

## 5 Mounting

### 5.1 Selecting the Mounting Location

#### Requirements for the mounting location:

- Mounting takes place indoor.
- The mounting location is protected against dust, moisture and corrosive substances.
- The mounting location is in the vicinity of a socket-outlet or an alternative voltage source.

#### Requirements for the cable routes:

- The cable route between the mounting location of the Meter Box, the mounting locations of the Sunny Backup and the Automatic Switch Box is at maximum 20 m.
- Every cable route leading from the Meter Box to an energy meter is at maximum 2 m in length.

#### Observe minimum clearances:

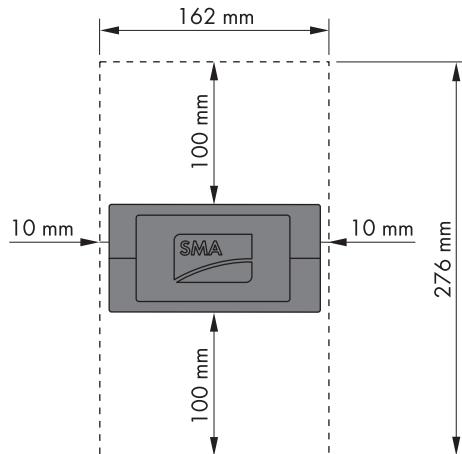


Figure 4: Minimum clearances to be observed

## 5.2 Mounting the Meter Box

### 5.2.1 Mounting the Meter Box on the Wall

Dimensions for wall mounting:

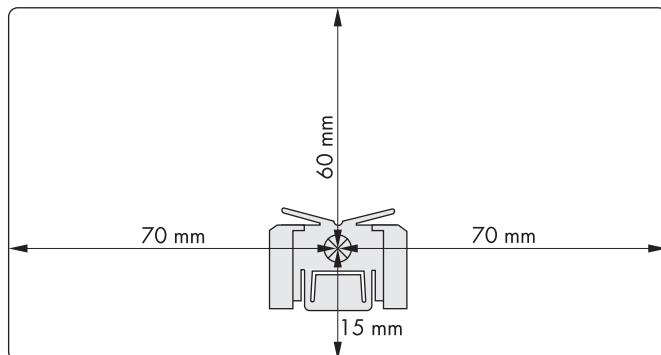
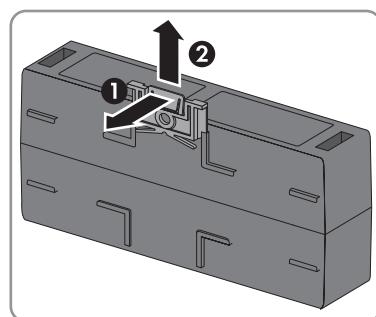
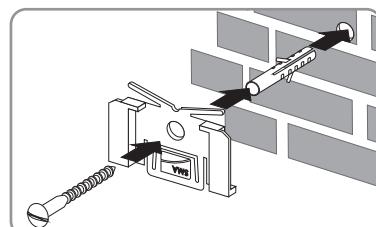


Figure 5: Position of the drill hole behind the Meter Box

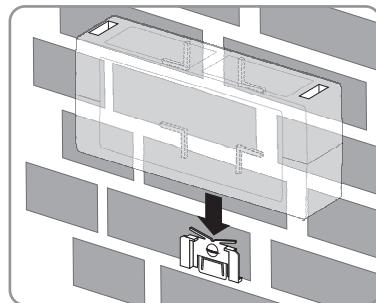
1. Hold the retainer pressed forward and slide it up out of the guide. By doing this, you remove the retainer from the rear of the Meter Box.



2. Mark the position of the drill hole on the wall. Observe the position of the drill hole behind the Meter Box.
3. Drill the hole (diameter: 6 mm).
4. Attach the retainer to the wall using the screw anchor and the screw. Align the retainer so that both pins of the retainer point upwards and the SMA logo faces to the front.

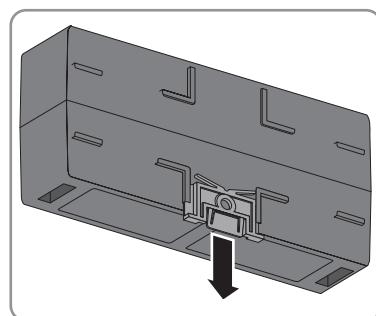


5. Place the Meter Box on the retainer from above.  
 Meter Box snaps audibly into place.

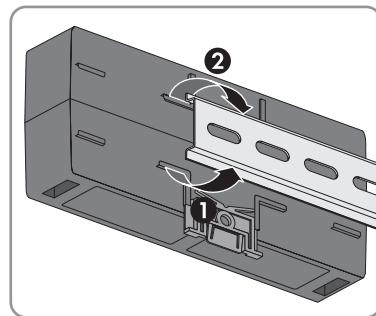


### 5.2.2 Mounting the Meter Box on Top-hat Rail

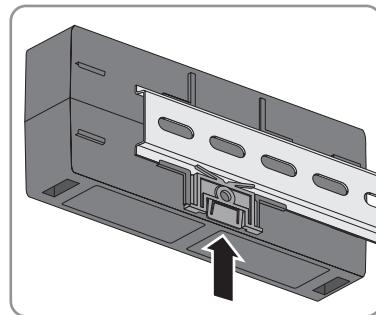
1. Pull the retainer out of the guide on the rear side of the Meter Box until only half of the retainer is still locked in place.



2. Press the Meter Box with the lower guides into the lower edge of the top-hat rail and the upper guides of the Meter Box into the upper edge until it locks into place.



3. Press the retainer into the guide until the retainer snaps into place.

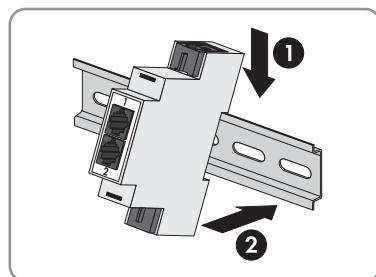


### 5.2.3 Mounting the Feed-through Adapter

If a feed-through adapter was supplied, mount it according to the following specifications.

**Requirement:**

- There is a top-hat rail installed in the mounting location.
- Hook the feed-through adapter into the top-hat rail from above and press the lower edge against the top-hat rail until the adapter snaps into place.



## 6 Electrical Connection

### 6.1 Connection Area of the Meter Box

#### 6.1.1 View of the Upper Enclosure Side

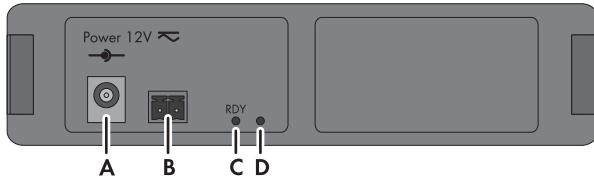


Figure 6: Connections and LEDs on the upper enclosure side

Position	Designation	Explanation
A	Jack	For plug-in power supply
B	Jack	For alternative voltage source
C	"RDY" LED	Status display of the Meter Box
D	LED	Error display of the Meter Box

#### 6.1.2 View of the Lower Enclosure Side

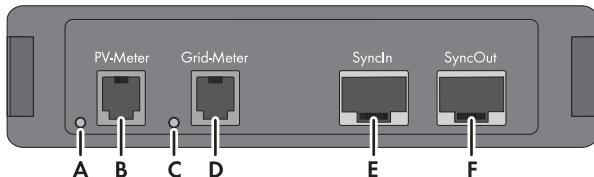


Figure 7: Connections and LEDs on the lower enclosure side

Position	Designation	Explanation
A	LED	Display of the data transmission of the PV production meter
B	"PV Meter" jack	For the reading head of the PV production meter
C	LED	Display of the data transmission of the meter for grid feed-in and purchased electricity
D	"Grid Meter" jack	For the reading head of the meter for grid feed-in and purchased electricity

Position	Designation	Explanation
E	"SyncIn" jack	Input for communication with the Sunny Backup and the Automatic Switch Box
F	"SyncOut" jack	Output for communication with the Sunny Backup and the Automatic Switch Box

## 6.2 Connection Area of the Feed-through Adapter

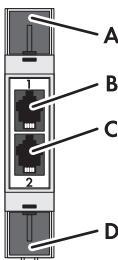


Figure8: Connections of the feed-through adapter

Position	Designation
A	Upper jack
B	Front jack "1"
C	Front jack "2"
D	Lower jack

## 6.3 Connecting the Reading Heads of the Energy Meters

### 6.3.1 Cable Route for Connecting the Reading Heads

#### Requirements:

- A mono-directional meter or a bidirectional meter is implemented as a PV production meter.

And

- A bidirectional meter is implemented as a meter for grid feed-in and purchased electricity.

In order to install the Meter Box outside of the AC main distribution, always observe the following specifications on the cable route:

- Keep cable route within the main distribution as short as possible.
- Wind up the cables outside of the AC main distribution.
- Keep the largest possible clearance to live conductors and component parts.

This will prevent quality losses in the data transmission between the reading heads and the Meter Box.

**Keep cable route within the main distribution as short as possible:**

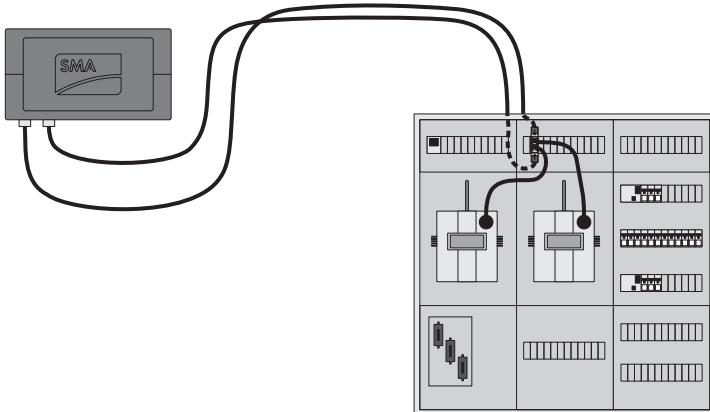


Figure 9: Keeping the cable route within the main distribution as short as possible

- Lay the connection cables of the reading heads and the extension cords along the shortest possible route from the respective energy meter to the enclosure of the AC main distribution.

**Wind up the cables outside of the AC main distribution:**

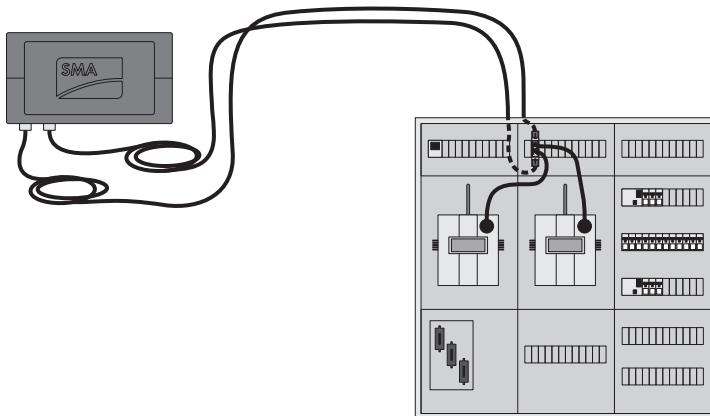


Figure 10: Winding up the cables outside of the AC main distribution

- If a connection cable or an extension cord is too long, wind up and fasten the segment outside of the AC main distribution that is not required (for example, with cable ties).

**Keep the largest possible clearance to live conductors and component parts:**

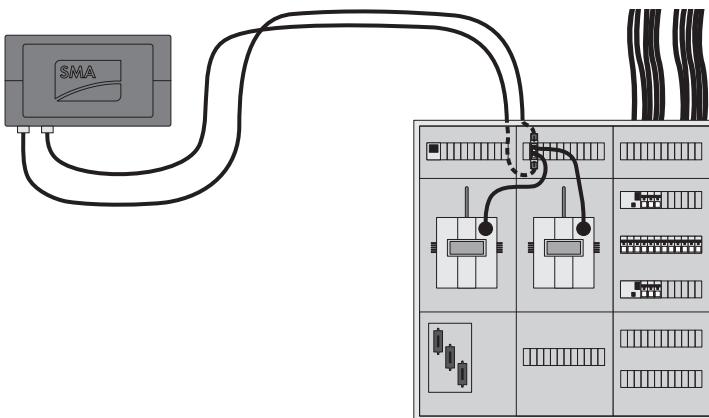


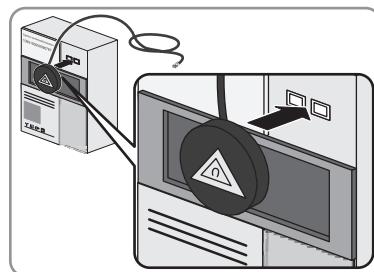
Figure 11: Largest possible clearance to live conductors and component parts

- When laying the connection cables and the extension cords within the AC main distribution, make sure to maintain the largest possible clearance to live conductors and component parts (for example, relays or transformers).

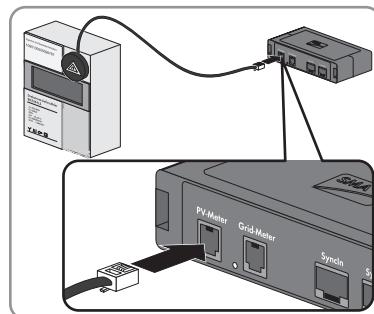
### 6.3.2 Connecting the Reading Heads without the Extension Cords

If no extension cords were supplied, connect the reading heads to the Meter Box according to the following specifications.

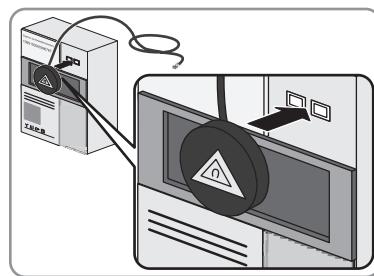
- Place the magnet holder of a reading head on the upper right of the front side of the PV production meter. To achieve this, the infrared interfaces on the reading head and the PV production meter must rest on top of each other and the connection cable of the reading head must point upwards.



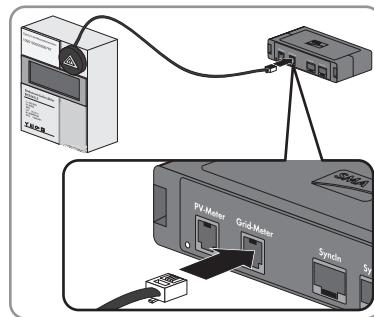
2. Connect the plug of the reading head of the PV production meter to the "PV-Meter" jack of the Meter Box.



3. Place the magnet holder of another reading head on the upper right of the front side of the grid feed-in and purchased electricity meter. To achieve this, the infrared interfaces on the reading head and on the meter for the grid feed-in and purchased electricity must rest on top of each other and the connection cable of the reading head must point upwards.



4. Connect the plug of the reading head from the grid feed-in and purchased electricity meter to the "Grid-Meter" jack of the Meter Box.



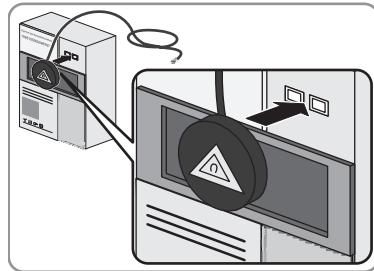
### 6.3.3 Connecting the Reading Heads with the Extension Cords

If 2 extension cords were supplied, connect the reading heads to the Meter Box according to the following specifications.

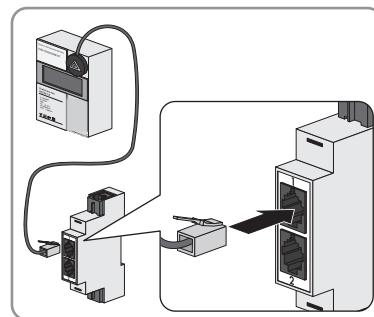
**Requirement:**

- The feed-through adapter is installed.

1. Place the magnet holder of a reading head on the upper right of the front side of the PV production meter. To achieve this, the infrared interfaces on the reading head and the PV production meter must rest on top of each other and the connection cable of the reading head must point upwards.

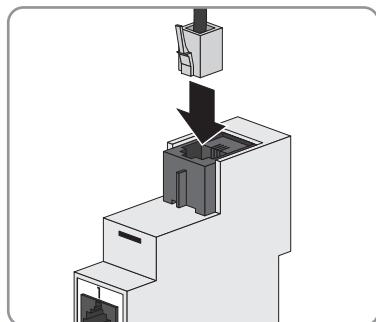


2. Connect the plug of the reading head of the PV production meter to the front jack "1" of the feed-through adapter.

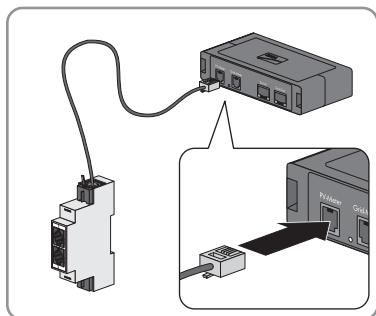


3. Connect the extension cord for the PV production meter.

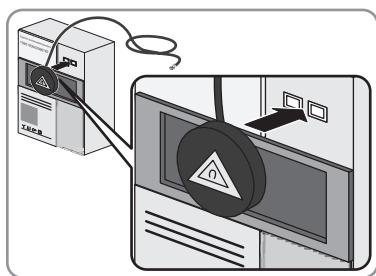
- Connect a plug of the extension cord to the upper jack of the feed-through adapter.



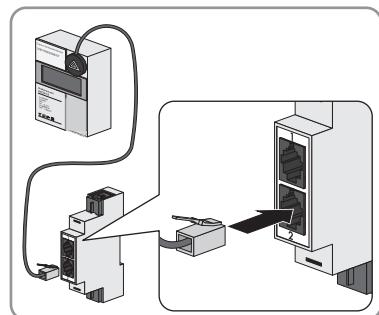
- Connect the other plug of the extension cord to the "PV-Meter" jack of the Meter Box.



4. Place the magnet holder of another reading head on the upper right of the front side of the grid feed-in and purchased electricity meter. To achieve this, the infrared interfaces on the reading head and on the meter for the grid feed-in and purchased electricity must rest on top of each other and the connection cable of the reading head must point upwards.

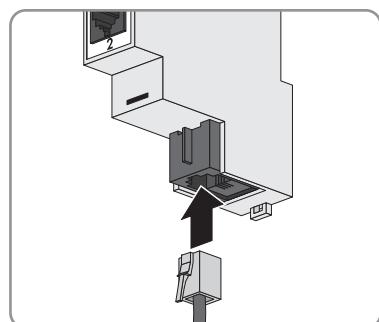


5. Connect the plug of the reading head from the grid feed-in and purchased electricity meter to the front jack "2" of the feed-through adapter.

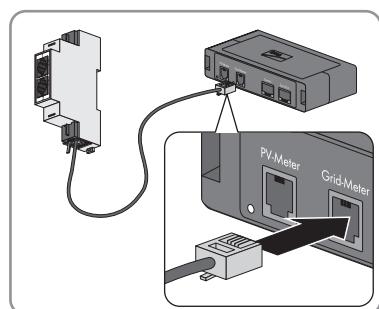


6. Connect the extension cord for the grid feed-in and purchased electricity meter.

- Connect a plug of the extension cord to the lower jack of the feed-through adapter.



- Connect the other plug of the extension cord to the "Grid-Meter" jack of the Meter Box.



## 6.4 Connecting the Communication

### Requirement:

- The cable route for the communication cables between the Meter Box, the Sunny Backup and the Automatic Switch Box is at maximum 20 m.

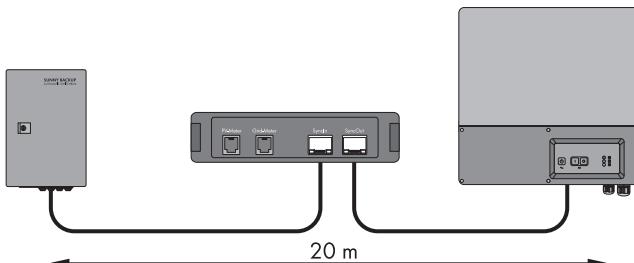


Figure 12: Connecting the Meter Box to the Sunny Backup and the Automatic Switch Box (example)

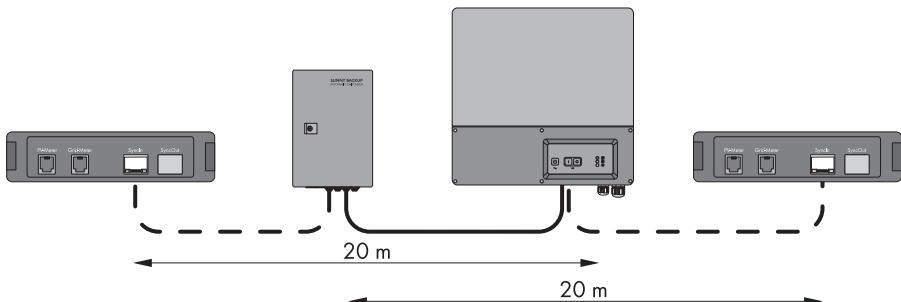


Figure 13: Connecting the Meter Box at the end of the cable route (example)

### ⚠️ WARNING

#### Risk of lethal electric shock

When working on the Sunny Backup system, lethal electrical voltages may occur.

- Before working on the Sunny Backup, switch it off (see technical description of the Sunny Backup system).
- Disconnect the Sunny Backup and the Automatic Switch Box from the power supply (see technical description of the Sunny Backup system).

There are 2 possible system configurations:

- The Meter Box is located between the Automatic Switch Box and Sunny Backup.
- The Meter Box is located at the end of the cable route.

**Connecting the Meter Box between the Automatic Switch Box and the Sunny Backup:**

1. Connect the RJ45 cable of the Automatic Switch Box to the "SyncIn" jack.
2. Connect the RJ45 cable of the Sunny Backup to the "SyncOut" jack.
3. If the Automatic Switch Box is located at the end of the cable route and there is no terminator attached to the "SyncIn" or "SyncOut" jacks, attach a terminator.
4. If the Sunny Backup is located at the end of the cable route and there is no terminator attached to the "SyncIn" or "SyncOut" jacks, attach a terminator.

**Connecting the Meter Box to the Sunny Backup or Automatic Switch Box:**

1. Connect the RJ45 cable of the Sunny Backup or the Automatic Switch Box to the "SyncIn" jack.
2. Plug the terminator into the "SyncOut" jack. Hint: The terminators for the communication cables are part of the scope of delivery of the Automatic Switch Box and the Sunny Backup.
3. If the Automatic Switch Box is located at the end of the cable route and there is no terminator attached to the "SyncIn" or "SyncOut" jacks, attach a terminator.
4. If the Sunny Backup is located at the end of the cable route and there is no terminator attached to the "SyncIn" or "SyncOut" jacks, attach a terminator.

## 6.5 Supplying the Meter Box with Voltage

### 6.5.1 Supplying the Meter Box with Voltage via the Plug-in Power Supply

#### NOTICE

##### Damage to the Meter Box due to excessive voltages

- Use the plug-in power supply included in the delivery.

1. Connect the country-specific socket-outlet adapter to the plug-in power supply; it snaps into place when inserted correctly.
2. Connect the plug of the plug-in power supply to the jack for the plug-in power supply on the Meter Box.
3. Connect the plug-in power supply plug to the socket-outlet.

### 6.5.2 Supplying the Meter Box with Voltage via 2-pole Plug

If you do not use the supplied plug-in power supply, there is the remaining option of connecting an AC or DC voltage source to the Meter Box using a 2-pole plug.

#### Requirements for a DC voltage source:

- The output voltage is 9 V ... 24 V.
- The output power is at least 1.5 W.
- The cable between DC voltage source and Meter Box is at maximum 10 m long.

#### Requirements for an AC voltage source:

- The output voltage is 8 V ... 20 V.
- The output power is at least 1.5 W.
- The cable between AC voltage source and Meter Box is at maximum 10 m long.

1. Disconnect the voltage source.
2. Open the spring clamp terminals of the 2-pole plug.
3. Connect the insulated conductors of the voltage source to the terminals of the plug.  
For this purpose, the polarity is arbitrary.
4. Close the spring clamp terminals.
5. Connect the 2-pole plug to the jack for the alternative voltage source.  
The 2-pole plug will fit into the jack in only one position.
6. Commission the voltage source.

## 7 Commissioning the Meter Box

### Requirements:

- The Meter Box is firmly mounted to a wall or top-hat rail. (see Section 5 "Mounting", page 12).
- The energy meter, the communication cables and the voltage supply are connected to the Meter Box.
- The Sunny Backup system is installed correctly (see technical description of the Sunny Backup system).
- The Sunny Backup system is redundantly grounded (see Technical Description "Sunny Backup 2200 - Integration of a Backup system into a PV plant, designed according to the 'internal consumption of solar power' principle (Section 33, Para. 2 EEG 2009)").

1. Start the Sunny Backup (see technical description of the Sunny Backup system).
2. Check whether the "RDY" LED lights up green.

If the "RDY" LED does not light up green, make sure the Meter Box is supplied with voltage (see Section 9 "Troubleshooting", page 30).

3. Check whether the LED next to the "RDY" LED is off.

If the LED next to the "RDY" LED flashes red, make sure the communication between the Automatic Switch Box, the Sunny Backup and the Meter Box is established (see Section 9 "Troubleshooting", page 30).

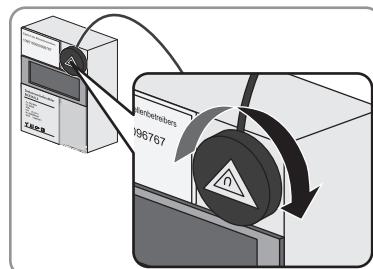
If the LED next to the "RDY" LED lights up red, contact the SMA Service Line (see Section 13 "Contact", page 38).

4. Check whether the LED next to the "Grid-Meter" jack flashes.

If the LED next to the "Grid-Meter" jack does not flash, check whether the meter for the grid feed-in and purchased electricity displays a value.

If the meter for the grid feed-in and purchased electricity does not display a value, wait for the display.

If the grid feed-in and purchased electricity meter displays a value, slowly turn the reading head on the grid feed-in and purchased electricity meter clockwise until the LED next to the "Grid-Meter" jack starts flashing. To achieve this, the infrared interfaces on the reading head and on the meter for the grid feed-in and purchased electricity must rest on top of each other.

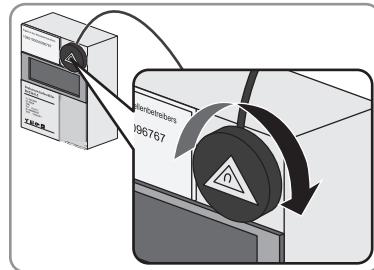


5. Check whether the LED next to the "PV-Meter" jack flashes.

If the LED next to the "PV-Meter" jack does not flash, check whether the PV production meter displays a value.

If the PV production meter is not displaying a value, wait for the display.

If the PV production meter displays a value, slowly turn the reading head on the PV production meter clockwise until the LED next to the "PV-Meter" jack starts flashing. To achieve this, the infrared interfaces on the reading head and on the meter for the grid feed-in and purchased electricity must rest on top of each other.



6. Make sure that the increase self-consumption function is activated on the Sunny Backup (see the Sunny Backup technical description). When doing so, do not change any other parameters on the Sunny Backup that are relevant to the self-consumption increase.
7. During the first few days after commissioning, read and record the self-consumption increase daily via the "SlfCsmplnctdy" parameter (see the Sunny Backup technical description).
8. If, despite intensive solar irradiation and high electrical consumption, the increase in self-consumption is well below 15%, make sure that the guidelines for the cable route between the Meter Box and the reading head have been observed (see Section 6.3.1).

## 8 Maintenance and Cleaning

- Regularly check the number of remaining charge cycles on the Sunny Backup (see the Sunny Backup technical description).
- Regularly check whether the Meter Box is externally damaged or soiled.
- If the Meter Box is soiled, clean the enclosure with a damp cloth. Only use non-abrasive and non-acidic cleaning agents.

## 9 Troubleshooting

Message	Cause and corrective measures
<p><b>"RDY" LED is off.</b></p> <p><b>Corrective measures:</b></p> <p>If you are using a <b>plug-in power supply</b>:</p> <ul style="list-style-type: none"> <li>• Ensure that voltage is present at the socket-outlet.</li> <li>• Use the plug-in power supply included in the delivery.</li> </ul> <p>If you are using the <b>2-pole plug</b>:</p> <ul style="list-style-type: none"> <li>• Check the alternative voltage source (see Section 6.5.2).</li> <li>• Keep the insulated conductors as short as possible.</li> <li>• Make sure that the selected conductor cross-section is sufficient.</li> <li>• Insert the plug-in power supply included in the delivery.</li> </ul> <p>After checking the plug-in power supply or the alternative voltage source, restart the Meter Box:</p> <ol style="list-style-type: none"> <li>1. If you are using a plug-in power supply, pull the plug from the socket-outlet.</li> <li>2. If you are using the 2-pole plug, disconnect the voltage source.</li> <li>3. Wait 10 minutes. This allows the capacitors to discharge.</li> <li>4. If you are using a plug-in power supply, insert the plug into the socket-outlet.</li> <li>5. If you are using the 2-pole plug, start the voltage source.</li> </ol> <p><input checked="" type="checkbox"/> "RDY" LED lights up green.</p> <p><input type="checkbox"/> "RDY" LED does not light up green?</p> <p>The Meter Box may be defective.</p> <ul style="list-style-type: none"> <li>• Contact the SMA Service Line.</li> </ul>	
<p><b>"RDY" LED lights up green.</b></p>	<p>The Meter Box is in operation.</p>
<p><b>LED next to "RDY" LED is flashing red.</b></p> <p><b>Corrective measures:</b></p>	<p>Communication cable route fault.</p> <ul style="list-style-type: none"> <li>• Ensure that the terminators are attached (see Section 6.4 "Connecting the Communication", page 24).</li> <li>• Make sure all RJ45 plugs of the communication terminals are inserted properly.</li> </ul>

<b>Message</b>	<b>Cause and corrective measures</b>
<b>LED next to "RDY"</b> <b>LED lights up red.</b>	<p>The Meter Box is defective.</p> <p><b>Corrective measures:</b></p> <ul style="list-style-type: none"> <li>• Contact the SMA Service Line.</li> </ul>
<b>LED next to the "PV-Meter" jack is out for more than 10 seconds.</b>	<p>Reading head/PV production meter is not transmitting data continuously.</p> <p><b>Corrective measures:</b></p> <ul style="list-style-type: none"> <li>• Check whether the PV production meter is displaying a value. If the PV production meter displays a value, the reading head may not be connected correctly or may be defective:           <ul style="list-style-type: none"> <li>- Make sure that the plug of the reading head or of the extension cord has been correctly inserted into the "PV-Meter" jack.</li> <li>- Make sure that the plug of the reading head and the plug of the extension cord have been correctly inserted into the designated jacks (see Section 6.3.3).</li> <li>- Make sure that the reading head of the PV production meter is aligned correctly. Here, slowly turn the reading head of the PV production meter clockwise until the LED next to the "PV-Meter" jack starts flashing (see Section 7).</li> <li>- If the LED next to the "PV-Meter" jack does not flash, replace the reading head.</li> </ul> </li> </ul>

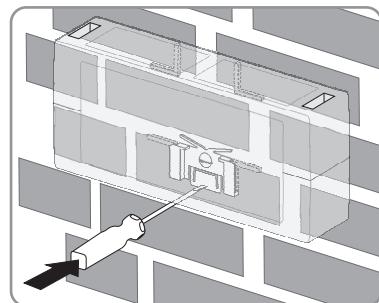
Message	Cause and corrective measures
<p><b>LED next to the "Grid-Meter" jack is out for more than 10 seconds.</b></p> <p><b>Corrective measures:</b></p> <ul style="list-style-type: none"><li>Check whether the meter for grid feed-in and purchased electricity displays a value. If the grid feed-in and purchased electricity meter displays a value, the reading head may not be connected correctly or may be defective:<ul style="list-style-type: none"><li>Make sure that the plug of the reading head or of the extension cord has been correctly inserted into the "Grid-Meter" jack.</li><li>Make sure that the plug of the reading head and the plug of the extension cord have been correctly inserted into the designated jacks (see Section 6.3.3).</li><li>Make sure that the reading head of the grid feed-in and purchased electricity meter is aligned correctly. Here, slowly turn the reading head on the grid feed-in and purchased electricity meter clockwise until the LED next to the "Grid-Meter" jack starts flashing (see Section 7).</li><li>If the LED next to the "Grid-Meter" jack does not flash, replace the reading head.</li></ul></li></ul>	<p>Reading head/grid feed-in and purchased electricity meter is not transmitting data continuously.</p>

# 10 Decommissioning

## 10.1 Removing the Meter Box

### 10.1.1 Removing the Meter Box from the Wall

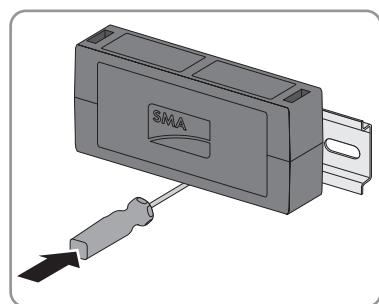
1. If you are using a plug-in power supply, pull the plug from the socket-outlet.
2. If you are using the 2-pole plug and an alternative voltage source, disconnect the voltage source.
3. Remove all plugs from the Meter Box.
4. Push the Meter Box up and use a screwdriver to press against the retainer.



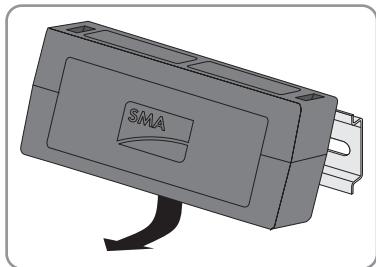
5. Push the Meter Box up out of the retainer.
6. Unscrew the screw from the wall and remove the retainer.

### 10.1.2 Removing the Meter Box from the Top-hat Rail

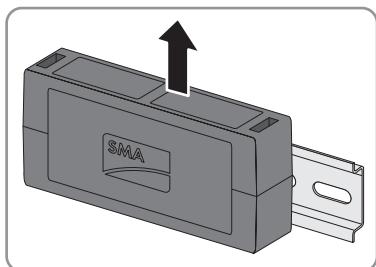
1. If you are using a plug-in power supply as a voltage source, pull the plug from the socket-outlet.
2. If you are using the 2-pole plug and another voltage source, disconnect the voltage source.
3. Remove all plugs from the Meter Box.
4. Push the Meter Box upwards and use a screwdriver to press against the retainer. Pull the retainer downwards and remove.



5. Tilt the lower edge of the Meter Box forwards.

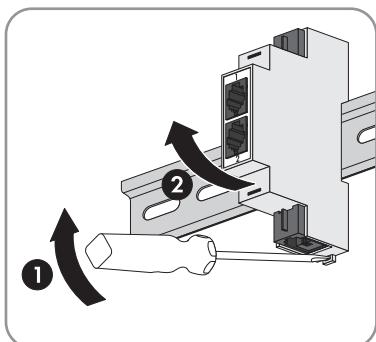


6. Lift the Meter Box out of the top-hat rail.



## 10.2 Removing the Feed-through Adapter

1. Remove all plugs from the feed-through adapter.
2. Push the feed-through adapter upwards and use a screwdriver to press against the retainer. Pull the retainer downwards and remove the feed-through adapter.



## 10.3 Disposing of the Meter Box and Feed-through Adapter

- To dispose of the Meter Box, the feed-through adapter, the extension cords and the reading heads at the installation site, observe the locally applicable waste disposal regulations for electronic waste.
- To have SMA Solar Technology AG dispose of the Meter Box, the feed-through adapter, the extension cords and the reading heads:
  - Use packaging which adequately protects the device from damage during transport.  
Hint: If available, use original packaging.
  - Return the Meter Box to SMA Solar Technology AG with shipping paid by the sender.  
When doing so, label the packaging "ZUR ENTSORGUNG" ("FOR DISPOSAL").

# 11 Technical Data

## General Data

Width x height x depth	142 mm x 40 mm x 76 mm
Weight	150 g
Status display	LEDs
Degree of protection*	IP20
Maximum length of communication cables to the Sunny Backup and the Automatic Switch Box	20 m
Length of supplied communication cable	3 m
Maximum length of cables leading to the reading heads	2 m

\* According to IEC 60529

## Voltage Supply

AC input voltage	8 V ... 20 V
AC input voltage tolerance	±10%
Frequency of AC input voltage	50 Hz/60 Hz
DC input voltage	9 V ... 24 V
DC input voltage tolerance	±10%
Typical power consumption	1 W
Maximum power consumption	1.5 W

## Climate Conditions during Operation

Ambient temperature	0 °C ... +50 °C
Relative humidity*	5% ... 95%
Maximum installation height above MSL	3 000 m

\* Non-condensing

## Climate Conditions during Storage and Transport

Ambient temperature	- 40 °C ... +70 °C
Relative humidity*	5% ... 95%

\* Non-condensing

## 12 Accessories

You will find the corresponding accessories and spare parts for your Meter Box in the following overview. If required, you can order these from SMA Solar Technology AG or your specialty retailer.

Designation	Brief description	SMA order number
Plug-in power supply	Plug-in power supply with adapters for other countries for voltage supply of the Meter Box via a socket-outlet	PWRSUPPLY

## 13 Contact

If you have technical problems concerning our products, contact the SMA Service Line.  
We need the following data in order to provide you with the necessary assistance:

- Type and serial number of the Meter Box (see type label of the Meter Box)
- Type of the grid feed-in and purchased electricity meter
- PV production meter type
- Reading head type
- Type and serial number of the Automatic Switch Box  
(see type label of the Automatic Switch Box)
- Type and serial number of the Sunny Backup (see type label of the Sunny Backup)
- Firmware version of the Sunny Backup
- Error message of the Sunny Backup
- Battery type
- Nominal battery capacity
- Nominal battery voltage
- Communication products used
- Type and size of used energy sources (PV plant, Sunny Boy)

### SMA Solar Technology AG

Sonnenallee 1  
34266 Niestetal, Germany  
[www.SMA.de](http://www.SMA.de)

### SMA Service Line

Tel. +49 561 9522 399  
Fax: +49 561 9522 4697  
E-Mail: [SunnyIsland.Service@SMA.de](mailto:SunnyIsland.Service@SMA.de)

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## **SMA Factory Warranty**

The current guarantee conditions come enclosed with your device. These are also available online at [www.SMA.de](http://www.SMA.de) and can be downloaded or are available on paper from the usual sales channels if required.

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